



TI-P139-03-US
Issue 2

Steel Separator 8" to 18" S4A

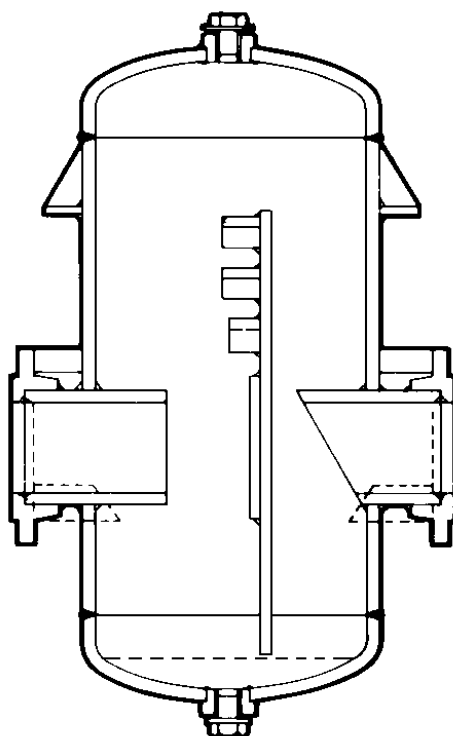
Description

Moisture Separators are used to improve the quality of steam or compressed air either within the distribution system or on the supply inlet to equipment. Removal of moisture is by a series of baffles on which the suspended water droplets impinge and fall out by gravity to the drain, which must be piped to a trap

Model	S4A		
PMO	150 psig	300 psig	600 psig
Sizes	8" to 18"		
Connections	ANSI 150	ANSI 300	ANSI 600
Construction	Fabricated steel body		
ASME code stamped	150 psig	300 psig	600 psig
Options	Gauge glass assembly		

Typical applications

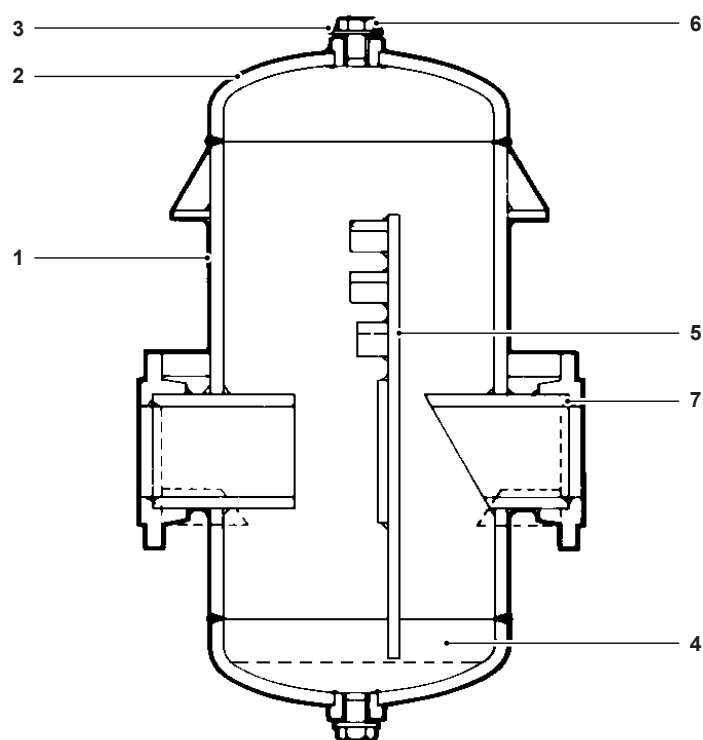
On steam mains, compressed air lines, steam turbines, heat transfer processes, meter protection, steam distribution systems, protection of equipment requiring dry saturated steam, removal of moisture from steam, air, or gas systems



Pressure shell design conditions

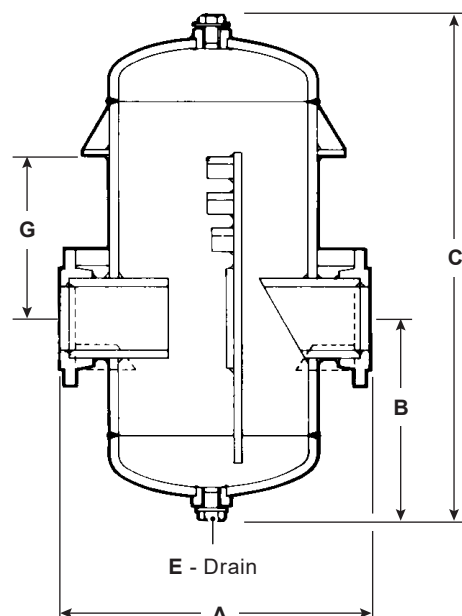
PMA	Maximum allowable pressure	ANSI 150	150 psi g @ 560 °F	10.3 bar g @ 293 °C
		ANSI 300	300 psi g @ 650 °F	20.7 bar g @ 343 °C
		ANSI 600	600 psi g @ 650 °F	41.4 bar g @ 343 °C
TMA	Maximum allowable temperature	ANSI 150	650 °F @ 125 psi g	343 °C @ 8.6 bar g
		ANSI 300	650 °F @ 300 psi g	343 °C @ 20.7 bar g
		ANSI 600	650 °F @ 600 psi g	343 °C @ 41.4 bar g
	Minimum allowable temperature		-20 °F	-29 °C

Materials



No.	Part	Material
1	Body	Steel
2	End caps	
3	Coupling	
4	Screen	
5	Baffle	
6	Plug	
7	End connections	

Dimensions/weight
(nominal) in inches (millimeters) and lbs (kg)



Size	Connection	A	B	C	E	F	Weight
8"	ANSI 150	41.9 (1064)	15.3 (389)	48.1 (1222)	2"	15.0 (381)	445 lb (202 kg)
	ANSI 300		15.5 (394)	48.3 (1227)			601 lb (273 kg)
	ANSI 600		15.7 (399)	48.8 (1240)			972 lb (441 kg)
10"	ANSI 150	48.7 (1237)	27.0 (686)	63.2 (1605)		16.4 (417)	805 lb (365 kg)
	ANSI 300		27.1 (688)	63.5 (1613)			969 lb (440 kg)
	ANSI 600		27.4 (696)	64.1 (1628)			1740 lb (789 kg)
12"	ANSI 150	49.5 (1257)	29.8 (757)	68.0 (1727)		19.0 (483)	828 lb (376 kg)
	ANSI 300		29.9 (759)	68.3 (1735)			1145 lb (519 kg)
	ANSI 600		30.3 (770)	68.9 (1750)			2008 lb (911 kg)
14"	ANSI 150	54.8 (1392)	30.8 (782)	72.1 (1831)		20.1 (511)	1282 lb (582 kg)
	ANSI 300			72.2 (1834)			1634 lb (741 kg)
	ANSI 600		31.1 (790)	72.8 (1849)			2851 lb (1293 kg)
16"	ANSI 150	59.0 (1499)	32.8 (833)	77.6 (1971)			1509 lb (684 kg)
	ANSI 300		32.9 (836)	77.9 (1979)			1953 lb (886 kg)
	ANSI 600		33.5 (851)	79.0 (2007)			3578 lb (1623 kg)
18"	ANSI 150	67.2 (1707)	35.2 (894)	83.9 (2131)			2186 lb (992 kg)
	ANSI 300		35.2 (894)	84.0 (2134)			2858 lb (1296 kg)
	ANSI 600		36.3 (922)	86.2 (2189)			5155 lb (2338 kg)

Recommended saturated steam capacities

(lb/h based on 90 ft/sec velocity)

Based on flows and velocity indicated, the pressure drop will be no more than equivalent length of pipe.

Operating pressure		Separator size					
psi g	bar g	8"	10"	12"	14"	16"	18"
5	0.34	5,754	8,871	12,576	15,153	19,812	25,190
10	0.69	7,020	10,822	15,342	18,487	24,171	30,733
25	1.7	10,933	16,855	23,894	28,791	37,643	47,862
50	3.4	17,262	26,613	37,728	45,460	59,437	75,573
100	6.9	29,576	45,597	64,640	77,888	101,836	129,481
150	10.3	42,005	64,759	91,805	110,620	144,631	183,894
200	13.8	53,744	82,856	117,460	141,533	185,049	235,283
250	17.2	65,713	101,308	143,618	173,052	226,259	287,681
300	20.7	78,257	120,647	171,034	206,087	269,451	342,597
325	22.4	84,587	130,405	184,868	222,756	291,245	370,307
350	24.1	89,881	138,566	196,438	236,697	309,472	393,483
375	25.9	96,671	149,034	211,277	254,578	332,851	423,208
400	27.6	102,770	158,438	224,608	270,641	353,853	449,911
450	31.0	115,084	177,422	251,521	303,069	396,252	503,819
500	34.4	129,355	199,422	282,709	340,650	445,387	566,293
550	37.9	140,403	216,455	306,855	369,744	483,427	614,640
600	41.4	153,062	239,971	334,523	403,082	527,015	670,080

Capacities for air and other gases available upon request.

Sample specification

Moisture Separator shall be of the high efficiency internal baffle type having a pressure drop that does not exceed an equivalent length of pipe. Separator shall be of steel construction in accordance with Section VIII, Division I of the ASME Boiler and Pressure Vessel Code. ASME Code Stamped for maximum working pressures of 150, 300, or 600 psi g (10.3, 20.7, 41.4 bar g). A screwed bottom drain connection shall be provided for the installation of a trap to discharge accumulated liquid. A Spirax Sarco Float Operated Drain Trap and "Y" Type Strainer shall be installed on the drain connection.